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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,054	12/02/2003	David Johnston	884.B57US1	2615

21186 7590 07/18/2007

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EXAMINER	
AU, GARY	

ART UNIT	PAPER NUMBER
2617	

MAIL DATE	DELIVERY MODE
07/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/726,054	JOHNSTON, DAVID	
	Examiner	Art Unit	
	Gary Au	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In view of the Pre-Appeal Brief Request for Review filed on 12/21/2006, PROSECUTION IS HEREBY REOPENED. New office action is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

Response to Amendment

2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Roaming apparatus, systems, and methods with a plurality of receivers coupled to a first frequency with a first station and selectively coupling another receiver to a second frequency with a second station".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section . 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-6, 8, 9, 11-14, 16-18 and 20-23 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,954,446 (Kuffner).

As to claims 1, 8 and 13, Kuffner teaches a method, an article comprising a machine-accessible medium having associated data, wherein the data when accessed, results in a machine performing, an apparatus and a system, comprising: coupling a plurality of receivers to a first frequency reference to communicate with a first station over a corresponding plurality of signal paths (communication resources 102, 104, 106 – figure 1, col. 2 lines 30-61, wherein Kuffner discloses that more than one receiver can

be configured to connect to the same frequency); and selectively coupling one of the plurality of receivers to a second frequency reference to communicate with a second station over a signal path not included in the plurality of signal paths (communication resource 104 – figure 1, (col. 2 lines 49-61).

As to claim 20, Kuffner teaches a method, an article comprising a machine-accessible medium having associated data, wherein the data when accessed, results in a machine performing, an apparatus and a system, comprising: coupling a plurality of receivers to a first frequency reference to communicate with a first station over a corresponding plurality of signal paths (communication resources 102, 104, 106 – figure 1, col. 2 lines 30-61, wherein Kuffner discloses that more than one receiver can be configured to connect to the same frequency); selectively coupling one of the plurality of receivers to a second frequency reference to communicate with a second station over a signal path not included in the plurality of signal paths (communication resource 104 – figure 1, (col. 2 lines 49-61); a processor to couple to the plurality of receivers (col. 7 lines 21-34); and inherently a display to couple to the processor (multiple mode RF communication device 100 – figure 1, col. 2 lines 30-48, wherein a communication device is commonly known to have a display).

As to claim 2, Kuffner teaches determining whether a quality of serviced provided by the second station is greater than a quality of service provided by the first station (col. 2 lines 49-61 and col. 3 lines 10-22, wherein Kuffner discloses that the first

frequency has a higher priority than the second frequency, it is obvious that the second frequency can be higher than the first frequency in other situation).

As to claims 3 and 17, Kuffner teaches the quality of service provided by the first station includes at least one of a network type (col. 2 lines 49-61), a signal strength (col. 2 line 62 – col. 3 line 9), a server provider (col. 2 lines 49-61), user-preferred information (priority definition, col. 2 line 62 – col. 3 line 9), user-preferred service (priority definition, col. 2 line 62 – col. 3 line 9).

As to claims 4 and 16, Kuffner teaches adjusting the first frequency reference to provide a reference frequency substantially equal to a reference frequency provided by the second frequency reference (col. 2 lines 49-61, wherein Kuffner disclose that the second receiver reconfigured to the first frequency. It is obvious that the first receiver would reconfigure to the second frequency if the second frequency has a higher priority).

As to claim 5, Kuffner teaches handing off communications between the first station and the plurality of receivers from the first station to the second station after determining that a quality of service provided by the second station is greater than a quality of service provided by the first station (col. 2 lines 49-61, wherein Kuffner discloses reconfiguring the receiver to the first frequency. It is obvious that the second

frequency would be used if the second frequency has a higher priority and that handoff would be preformed).

As to claims 6, 18 and 22, Kuffner teaches selecting coupling another one of the plurality of receivers to a third frequency reference to communicate with a third station over another signal path not included in the plurality of signal paths (communication resource N 106 – figure 1, col. 5 lines 15-29).

As to claim 9, Kuffner teaches the plurality of receivers are configured to operate as a multiple-input, multiple-output system, and wherein selectively coupling one of the plurality of receivers to the second frequency reference (col. 6 lines 5-15) further comprises: decoupling the one of the plurality of receivers from operating as a part of the multiple-input, multiple-output system (col. 2 lines 30-48); and coupling the one of the plurality of receivers to operate as a receiver independent from the multiple-input, multiple-output system (col. 2 lines 49-61).

As to claim 11, Kuffner teaches a first reference frequency to be provided by the first frequency reference is selected in accordance with a channel designated by one of an Institute of Electronics Engineers (IEEE) 802.11 standard (col. 6 lines 16-48).

As to claims 12 and 21, Kuffner teaches a selected one of the plurality of receivers is included in a transceiver (col. 3 lines 23-44).

As to claim 14, Kuffner teaches a portion of a multiple-input, multiple-output communication system (col. 2 lines 49-61).

As to claim 23, Kuffner teaches a one-to-one corresponding plurality of antennas to couple to the plurality of receivers (antennas 122, 124 and 126 – figure 1, col. 2 liens 30-48).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 7, 10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,954,446 (Kuffner) as applied to claims 1, 8 above, and further in view of US Patent No. 6,735,442 Tu et al. (Tu).

Considering claim 7, Kuffner teaches reconfiguring the first receiver to the second frequency and communicating with a station (col. 2 lines 49-61, wherein Kuffner disclose that the second receiver reconfigured to the first frequency. It is obvious that the first receiver would reconfigure to the second frequency if the second frequency has a higher priority). However, Kuffner fails to teach that the frequency is a new frequency.

In an analogous art, Tu teaches that the frequency is a new frequency (col. 3 lines 22-50).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Kuffner's system to include the frequency is a new frequency, as taught by Tu, for the advantage of tuning to a new frequency that has a possible better signal.

Considering claim 10, Kuffner teaches the system as described above. However, Kuffner fails to disclose selecting a second reference frequency to be provided by the second frequency reference based on a list of frequencies and a location of the plurality of receivers.

In an analogous art, Tu teaches selecting a second reference frequency to be provided by the second frequency reference based on a list of frequencies and a location of the plurality of receivers (col. 3 lines 22-50).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Kuffner's system to include selecting a second reference frequency to be provided by the second frequency reference based on a list of frequencies and a location of the plurality of receivers, as taught by Tu, for the advantage of tuning to a new frequency.

Considering claim 19, Kuffner teaches the plurality of signal paths comprise a portion of a multiple-input, multiple-output communication system (col. 2 lines 49-61), a

third frequency reference, wherein at least another one of the plurality of receivers can be selectively coupled to the first frequency reference or the third frequency reference to communicate with a third station using a second signal path not included in the plurality of signal paths (communication resource N 106 – figure 1, col. 5 lines 15-29). However, Kuffner fails to teach the signal path is a search signal path.

In an analogous art, Tu teaches the signal path is a search signal path (col. 3 lines 22-50).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Kuffner's system to include selecting a second reference frequency to be provided by the second frequency reference based on a list of frequencies and a location of the plurality of receivers, as taught by Tu, for the advantage of tuning to a new frequency.

8. Claims 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,954,446 (Kuffner) as applied to claim 13 above, and further in view of US Patent No. 6,728,517 Sugar et al. (Sugar).

Considering claim 15, Kuffner teaches the system as described above. However, Kuffner fails to teach a synthesizer.

In an analogous art, Sugar teaches a synthesizer (col. 5 lines 2-8 and col. 9 line 51 – col. 10 line 3).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Kuffner's system to include a synthesizer, as taught by Sugar, for the advantage of tuning the device to the right frequency.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary Au whose telephone number is (571) 272-2822. The examiner can normally be reached on 8am-5pm Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LESTER G. KINCAID
SUPERVISORY PRIMARY EXAMINER